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Forest Hill, Cleveland, Ohio

ANDREW J. THOMAS, ARCHITECT

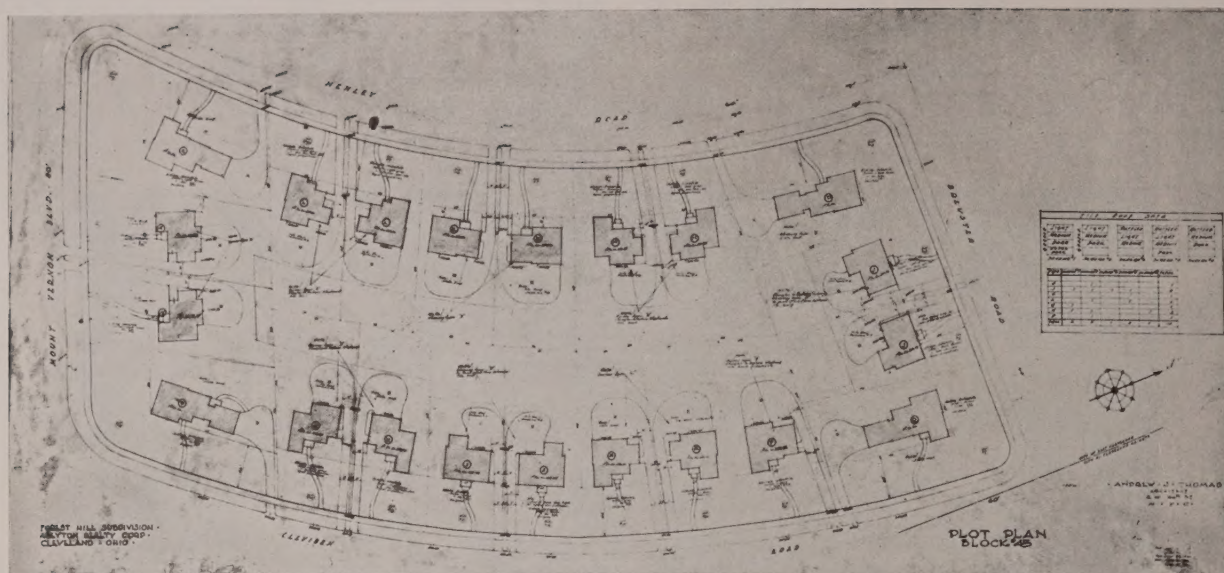
By Matlack Price

 **O**F all architectural projects no consistent observer would hesitate to say that designing and planning a community group of dwellings is peculiarly exacting. Involved in it, in its larger aspects, are implications sociological, economical, and architectural, with some conspicuous degree of failure incident to neglecting or mishandling any one of these.

The last, any architect will agree, represents the least of his worries. That he will invest the whole project with an attractive, suitable, and consistent architectural manner is implicit in

his very engagement to undertake the work. That he will acquit himself as well in so far as the other aspects are concerned, he earnestly hopes. The architectural treatment of the important real-estate development here presented lends itself to a definitely subjective discussion and portrayal; the more intangible aspects must, in part, be imagined, in part suggested.

Sociologically it was important to establish, as nearly as might be possible, the manner and predictable standards of living of the people who would represent the logical future owners of homes in this community, their tastes and

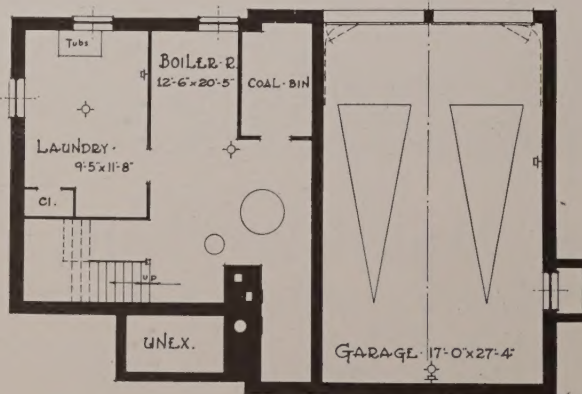


Plot plan of a block, indicating the generous allotment of inside area for the benefit of all

requirements, and the demands which these would make upon the architect's planning. And the economical aspects of the problem would, necessarily, be closely interwoven with the sociological. What income group, for instance, both actual and potential, would be represented by the future dwellers in this new eight hundred-acre development?

Hasty assumptions on such questions would be dangerous material, considered as a point of departure

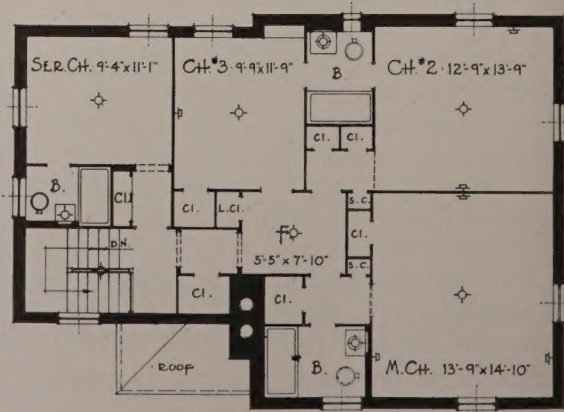
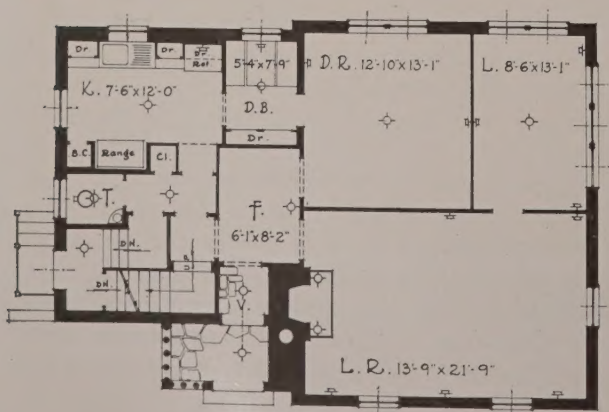
Here are the basement, first, and second floor plans of the typical house, which, largely by reason of



for actual planning and estimating. Requirements must be worked out through careful research—and haste, fortunately, was not essential.

It was in 1923 that John D. Rockefeller, Jr., acquired the paternal estate in East Cleveland and decided to develop it as a residential park. In view of the natural and cultivated beauty of the terrain, together with his resources for creating, here, a really fine thing, there was no necessity for making

its asymmetric character, lends itself readily to a variation of exterior treatment





An entrance detail of one variation on the typical plan. The half-timber work with its brick nogging is, of course, genuine



The brick used throughout the development is a special blend created particularly for this work in soft reds and pinkish tans



A bird's-eye view of one of many models worked out in the course of several years' study of the problem

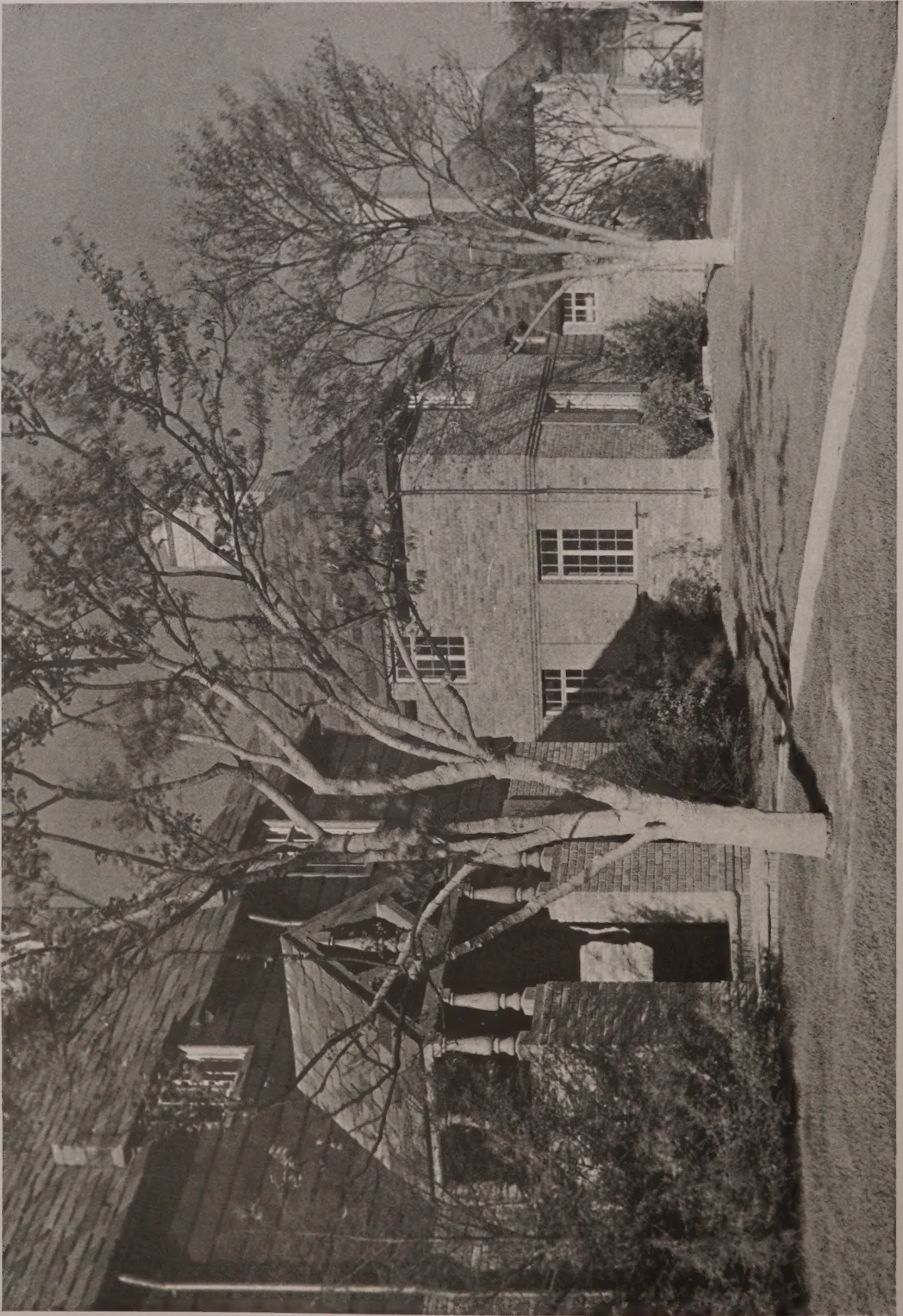
any of the mistakes that are almost invariably bred by precipitate action. In view of his wisdom and experience in large planning projects, the choice of Andrew J. Thomas as architect was well advised, and the first step was a careful examination of the property, which consisted of four hundred acres in lawns and woodlands and four hundred acres in farm lands. Two years elapsed, during which a complete contour map was made, and innumerable models and studies. Thorough research established the conviction that the development should consist of seven- and eight-room houses, with two-car garages, the houses to represent minor variations of a master plan.

In the intent of the general appearance of the place as a thoroughly well-studied community development, the architect determined to avoid two outstanding blemishes of the average American suburb—overhead wires and makeshift or compromise garages. Every wire in Forest Hill is carried in underground conduits and the garages are sunk to occupy the basement levels of the houses. Skilful manipulation of grades and resourceful concealment by means of planting have made this device possible in the majority of the eighty-one houses already built.

In the design of an extensive group of houses built to be sold on attractive terms, any architect is confronted with the obvious alternative of basing his individual plans on a generally uniform scheme in order to effect substantial

savings on each house, or of featuring variety for its own sake and allowing the resulting cost differential to be absorbed by detrimental economies in materials, workmanship, and equipment. Obviously the architect's respect for sound and permanent building, as a fundamental professional ideal, places him always on the side of whatever procedure will insure this, no matter what alignment of influence is represented by a selling personnel which is motivated by that fatal slogan of expediency: "The customer is always right." Of his prospective customer the salesman, with the consummation of a sale his whole objective, is all too likely to say: "This man is spending his money for a house. Who are we to dictate to him what sort of a house it is to be? If we want to make this sale, we'd better let him have what he wants." And there would be no quarrel with this point of view if making sales were the major objective of fine real-estate development.

In any closely built community architectural self-determination is inevitably dangerous. It places a pink Spanish villa beside an English half-timbered one, with a Norman farmhouse on the other side and a New England colonial house next to that. For the good of all a certain amount of control is essential, a certain guarantee of stylistic consistency with the implicit understanding that this must not mean monotony. Far too often this essential of architectural control is promised by real-estate operators and



In the matter of style, the choice of a type derived from the Norman farmhouse, without any of its specific peculiarities, afforded an opportunity for wide variation within the bounds of harmony

promoters, but, when a sale is in the balance, the control is waived and the whole character of the development is placed in jeopardy and probably destroyed. People who have admired the architectural charm of English and Continental villages have failed, in their attitude toward their own communities, to appreciate the important truth that it was the charm of consistency that attracted them. This fact has not escaped people of intelligence and discernment, and even the least professional and most popular architectural writings are full of such commentary as this from Emily Post's book, "The Personality of a House," under a sub-title, "Neighborhood Destroyers":

"In marked opposition to unity are the out-of-key houses of a certain species of householders to be found in almost every town in the United States—a species for whom there is no better name than Neighborhood Destroyers. Curiously enough, they are almost always persons who consider themselves honorable members of the community—who would not take a

mill not rightfully theirs, nor take advantage of a neighbor in any manner of dealing whatsoever. And yet they will unthinkingly take something of far greater value than the neighborhood petty cash by putting up a discordant building or splashing it with violently jarring color and robbing the whole town of its beauty. . . . If each of us in every town would care something about the unity of the streets we live on, the towns of America would be the most beautiful in the world. But a haphazard collection of unrelated styles of architecture can never look anything but mongrel."

To offset this there is the trained taste of the architect, disinterestedly functioning in opposition to various counsels and admonitions of expediency—and experience has shown that, in the long run, the architect is right, and not without reason. His training has been one of extended and particular experience and his vision is keyed to the comprehension of the larger and more permanent aspects involved in any project upon which he works.



Living-room in one of the houses. The glimpse of the stairway through the arch indicates one of the minor variations from the typical plan



Two kinds of roofs were used: one of shingle tile in a rather extensive color range; the other, slate graduated in size and offering its own natural color range



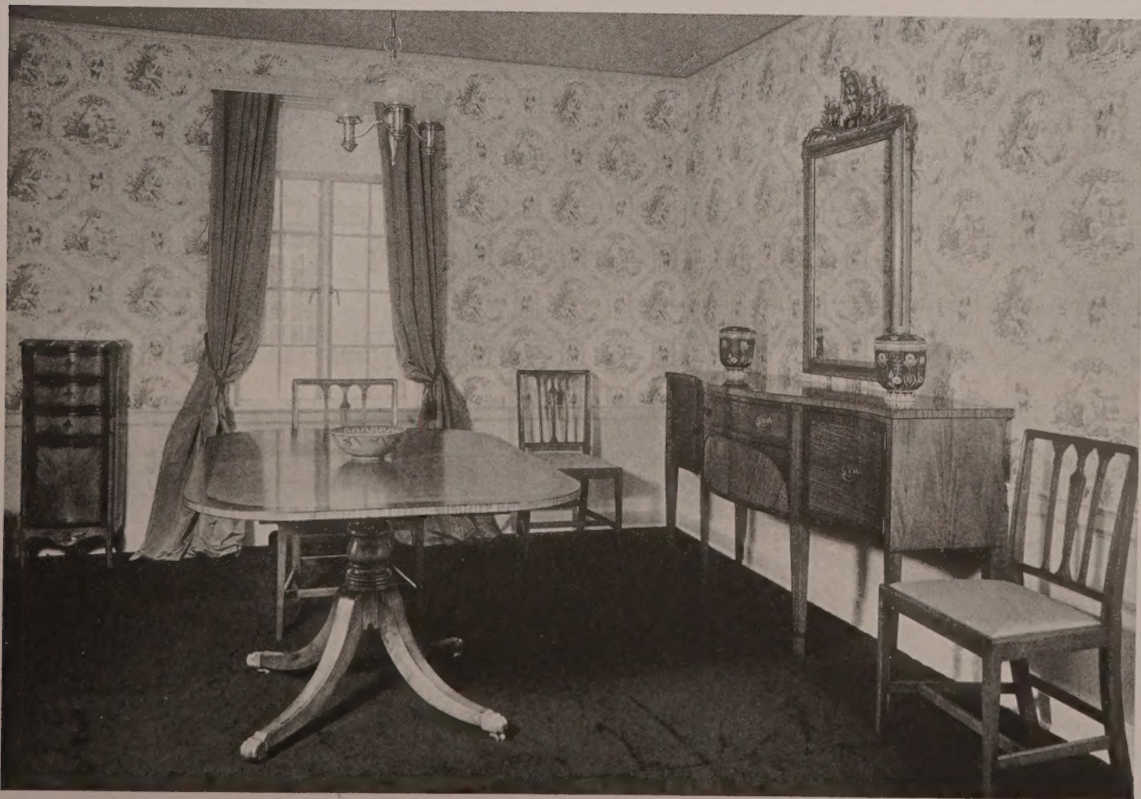
Possibly no single feature of the typical plan provided such an opportunity for variation as the close juxtaposition of outside chimney and main entrance

When, as in the present instance, unity and consistency were urged as of the essence of the Forest Hill project, this was no arbitrary recommendation, but one motivated by an intention of the greatest and most permanent good for the greatest number of people. Which, in community planning, is the only general objective that can, given intelligent control, predictably achieve results. It is a premise on which architects and developers of real-estate must ultimately agree and must ultimately come to see as representing a fundamental unity in their entire mutual intention.

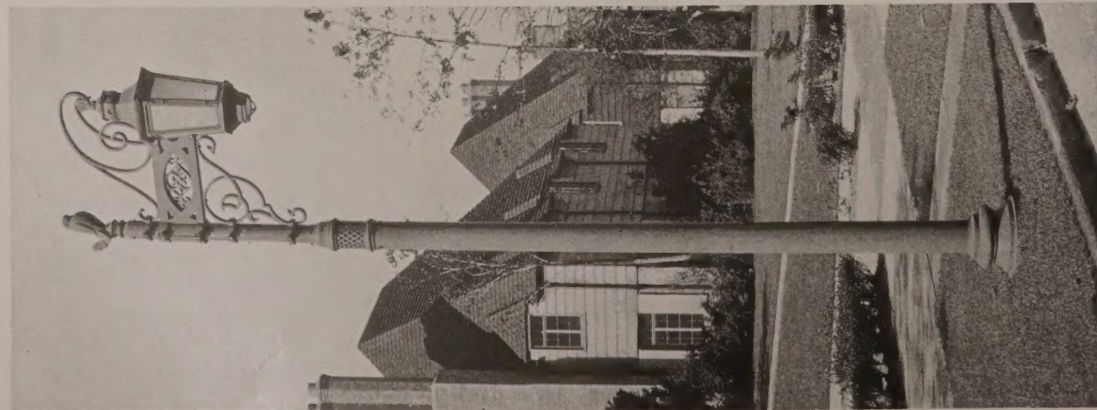
When the question of architectural style arose there came up, as must inevitably come up in many of our localities, an acceptance of the fact that Ohio could offer no definite precedents, traditions, or even implications. If any could be derived from the first homesteads, which were log cabins, such a derivation could be no more than an indirect implication that, since these were the homes of sturdy pioneers, their present-day successors would do well to adopt a simple, sincere sort of dwelling, primarily one of no sophisticated European derivation, primarily one that might suggest, in so far as it suggested anything specific, an idea of domesticity.

With this in mind the choice of a type derived from the Norman farmhouse, without any of its specific peculiarities of technique, is seen as acceptable because it possesses both style and character without too much insistence on any period or nationality, and because it affords a ready opportunity for the use of permanent and interesting building materials.

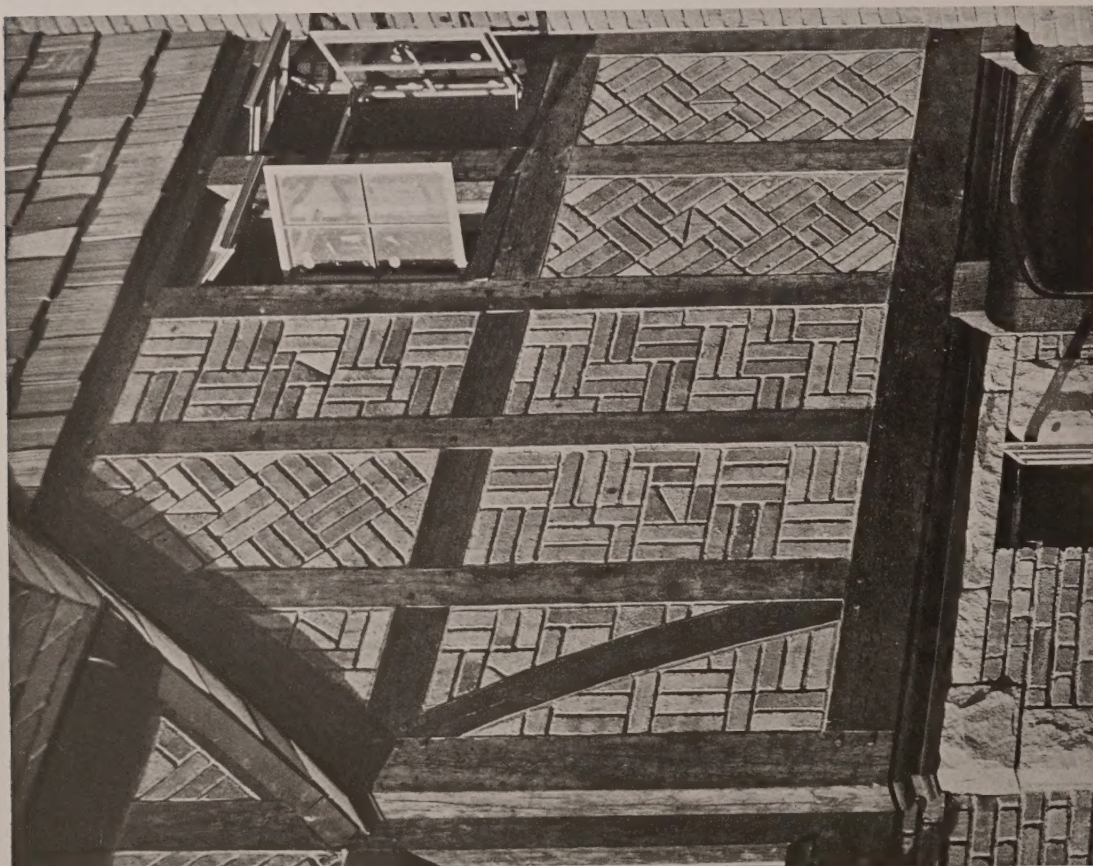
Definite variations in the use of the principal materials have been utilized in these houses to counteract the monotony which would otherwise result from general uniformity of plan. A special brick, kilned in a range of soft, warm tones, was developed by the architect for use in these houses, and for the varied treatment of exterior walls various combinations of this brick were devised with a local Ohio sandstone, solid oak half-timbering, wavy-edged cedar siding and hand-split shakes. These materials, in diversified color schemes, were combined with two kinds of roofs, consisting of shingle tile chosen for an extensive color range, and rough slate, graduated in size, and also presenting its own natural color range. Most of the sash are metal casements, and every advantage was taken of the inherent informality of the general type of house to emphasize variety and individ-



One of the dining-rooms. Here, as throughout most of the development, the windows are steel casements



All wires are under ground, and the street lights were especially designed for the development



The special brick, a local Ohio sandstone, solid oak timbering, hand-split shakes, and wavy-edged cedar siding, provided a generous palette for the exterior rendering



No detail of planting, landscaping, or even of the street signs was left unconsidered



Evidence of how naturally the architect has followed his artificially sloped site to make possible the basement garage

uality. The extent to which this was achieved may well be allowed to rest on the evidence presented in the illustrations.

Inherent in the argument in favor of a general standardization of plan, there is in each house an integrity of construction not necessarily proven by the illustrations. The first floor in every house is fireproof, all materials are permanent and the best of their kind; all bathroom and kitchen fixtures are of the best and latest type. Shoddy construction for quick sales formed no part of the planning of this development, and each house, on its actual merits as a house, is represented as a sound investment and an exceptional value.

To the eighty-one houses already built there is now added a community-store building, housing a branch of a Cleveland bank, and in immediate contemplation is a picturesque apartment-house group of considerable extent, and a country club. These buildings are designed

wholly in accord with the architectural character of the development, without any insistent implication of style for its own sake, but rather in a style that constitutes its own reason for employment. And this, together with the multitude of practical solutions of involved problems, represents the architect's able contribution to advanced standards of community planning.

No detail can safely be overlooked in this kind of work, and while planting is by no means a detail, extensive work in this important phase of the project was carried on side by side with the architectural work. There is apparent here a full realization of the indispensable aid of planting as a means of relating each house to its site and each house to its neighbors in settings already endowed with natural and cultivated beauty. Too much stress cannot be laid upon the ever-present advantage of the elimination of all overhead wires, and as a detail of added character and individuality in a community of



Here is the community store building, built of the same materials and in the same spirit as the houses themselves

this type, the architect's special designs for lamp-posts and street signs are worthy of particular attention.

In so far as the basic style-consideration of community planning is concerned, future ages, with possible future evolutions in superficial manner, will not alter or evade the essential controversy that involves unity versus chaos; variety versus monotony. And the only solution that can ever be found will come from the architect's nicety of judgment in the balance he effects between the two horns of the dilemma. He will endeavor, with all the taste and dis-

crimination at his command, as in the present example we are examining, to preserve an essential unity of architectural feeling in the whole project at the same time that he employs

every possible device of material and detailed manner to achieve the variety that will defeat monotony. And the measure of his success, when all is said and done, can come not alone from his professional equipment of taste and experience but from the degree of control he is allowed to exercise in the achievement of a result for which, in the end, every one concerned will hold him strictly responsible.



A detail of the community store building, showing the entrance to the

local branch bank



*Marble mosaic and terrazzo in offices at 1385 Broadway, New York City.
Schwartz & Gross, architects*

Modern Craftsmanship in Terrazzo

By Eugene Clute

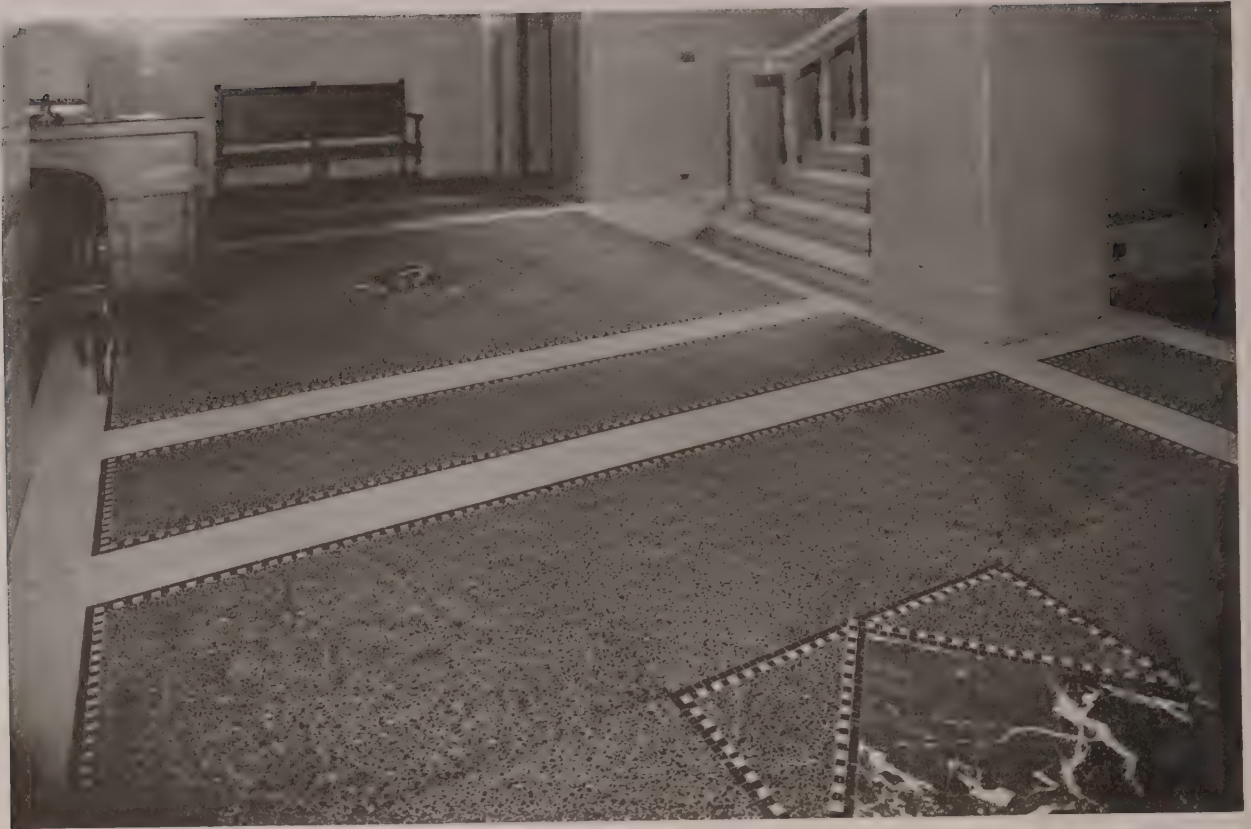
TERRAZZO as we know it is a development of quite recent years, little if any progress having been made previously since the days when Venice was at the height of her power. Though its use has increased immensely with the improved adaptability and lowered cost that have come with modern methods, its possibilities are only beginning to be appreciated. It is still largely confined to floors, bases, and stair work. Dados of terrazzo are sometimes seen, also columns faced with it and, rarely, pictorial wall panels, entire walls and ceilings. These point the way to its more extended use.

Terrazzo working was revolutionized by the appearance of metal dividing strips about 1919. Up to that time terrazzo floors had been laid in squares by a rather slow and laborious process, to prevent any cracks that might develop from forming unsightly irregular lines. Oiled wooden grounds were placed upon the scratch coat to form squares and alternate squares were filled

with the finish coat of terrazzo. On the following day, the grounds were removed and the intervening squares were filled in. The introduction of metal dividing strips did away with all of this, saving labor and speeding up the work. It also gave to terrazzo a new element with great design possibilities.

The now familiar grinding machine, driven electrically, had already done much to cut down labor cost and time, for it came before the metal dividing strips. It quickly displaced the primitive *gallera*—a piece of stone attached to a long handle of iron pipe, which was pushed and pulled back and forth by a workman, gradually wearing down the terrazzo to a smooth, level surface.

The scratch coat is laid smooth and level, for it is the guide for the finished floor. Its surface is usually $\frac{5}{8}$ " or $\frac{3}{4}$ " below the desired level of the finished floor, according to the specifications. Then the metal dividing strips are put in place and pressed down into the scratch coat to the



Terrazzo with marble in the Brooklyn Trust Company, Brooklyn, N. Y. York & Sawyer, architects

proper depth. The strips often are provided with a flange or other projection on their sides to prevent them from going too far down, and to ensure a level surface. The strips are made to project a little above the finishing level of the floor, to allow for grinding down.

The metal strips are also provided with projections punched out to provide a key, holding the strips in place. These projections are on one side of the strip only, so that it may not be pulled into a wavy line by any cracking that may occur between the squares. The single strip protects the edge of the square to which it is anchored, but leaves the opposite edge of the crack without such protection against a possible tendency to wear ragged. To overcome this, a strip is made from sheet metal folded so that the doubled edge is at the top and keys are provided at both sides. This doubled edge is cut through by the grinding down of the floor in finishing, forming two strips in contact, each attached to a square of terrazzo, providing protection for both edges of the joint between the squares.

Since the dividing strips can be made to play an important part in the design, they are sometimes made with a top section that shows a wider

face upon the surface of the work. For instance, the strips in the floor of the reception room of the Irving Trust Company, One Wall Street, and in the Hotel New Yorker, both in New York City, show faces $\frac{1}{4}$ " and $\frac{1}{2}$ " wide, respectively. This is purely a matter of design governed largely by the scale of the interior treatment. When it seems desirable to make the dividing strips show as little as possible, zinc strips are used, for they tone in with the color of the terrazzo and do not gleam. The strips are commonly of brass, nickel, silver, or zinc.

After the finished coat is laid the work is allowed to set, usually from three to five days, then given a rough rubbing with 24-grit carborundum stones in machines, after which it is grouted. The grouting is allowed to remain on until the job nears completion, when the work is ground down with 80-grit carborundum stones used in a grinding machine. Terrazzo can be polished by the same means that are employed in polishing marble.

Floors and steps of terrazzo withstand wear better than most other materials used for the purpose, and they wear down more evenly than floors composed of materials of different degrees



A floor of terrazzo alone, Bricken Building, New York City. Schwartz & Gross, architects

of hardness. Even where chips of different marbles are used in terrazzo, this holds true.

Terrazzo is less slippery than most floors, owing to the cement it contains, and, excepting on ramps and the treads of stairs, it does not call for any special provision against slipping; in such places a safeguard may well be provided by mixing alundum chips with the marble chips and cement of the finish coat. This substance can be had in cream, yellow, olive-green, and black. Where it is desired that the treads of steps be of the same appearance as floors adjoining them which do not contain alundum chips, the treads are sometimes made of the same mixture as the floors, and longitudinal grooves are cut in them and filled with an abrasive material forming narrow black lines of neat appearance. An example of this is found in the ground floor of the Graybar Building, New York City.

Terrazzo can be cast in place or, for certain purposes, it can be precast in the shop to advantage, especially in stair work. Treads for steel stairs are often cast in the shop of terrazzo reinforced with steel rods or steel mesh, to avoid blocking the stairway by making the treads on the job. Where the risers as well as the treads

are of terrazzo, there are usually not more than two or three steps, at a change of level between floors, and it is possible to form the steps on the job without interfering with other work.

Terrazzo is usually composed of a scratch coat of 1 part of Portland cement to 5 or 6 parts of clean sharp sand, and a finish coat of 1 part of cement to 2 or 2½ parts of marble chips. An almost unlimited range of colors is available through the use of chips of different-colored marbles and, furthermore, the cement can be colored by the addition of pigments.

Though intended in the first place as a means of dividing a floor into squares, the use of metal strips has been developed into a means of producing patterns and even elaborate pictorial panels of terrazzo, the strips forming cells which are filled in with terrazzo of different colors, somewhat after the manner of cloisonné designs. This method is very extensively employed in forming ornamental borders, centrepieces and other motives, in conjunction with a field of plain squares.

In addition to form and color, terrazzo has a range of textures due to the chips of marble that compose the aggregate. These may be coarse,



A floor in which the metal dividing strips play an important part in the design. National Title and Guaranty Company, New York City. Corbett, Harrison & McMurray, architects



Detail of main banking-room floor, National Title Guaranty Company, Brooklyn. Corbett, Harrison & McMurray, architects

Detail of terrazzo in National Title Guaranty Company's rooms—a design that would have been impractical without the craftsmanship of to-day. Corbett, Harrison & McMurray, architects

or fine, or mixed, to produce the quality desired.

The enrichment of terrazzo with ornamental borders and motives of marble mosaic, and with inserts of colored and veined marble, still further widens the range of effects, and there are many familiar examples of this method. Inserts of cast metal, either flush or modelled in low relief, provide another note.

Most of the terrazzo workers in this country seem to have come originally from the Friuli, Prov-



Curved wall surface in terrazzo with marble mosaic. Rochester Savings Bank, Rochester, N. Y. McKim, Mead & White, architects; executed by De Paoli Company, Inc.



A combination of marble mosaic with terrazzo, in the Bricken Building. Schwartz & Gross, architects



Detail of another terrazzo floor in the Bricken Building where unusual nicety of jointing the metal dividing strips was required to secure an effective job. Schwartz & Gross, architects



ince of Udine, a few hours from Venice, and terrazzo, of course, is a feature of Venetian architecture. For example, the floors of the Doges' Palace are of terrazzo. The characteristic color of old Venetian terrazzo is red, for chips of red marble were used for the aggregate with a binder of cement composed of lime and red brick dust. This old terrazzo has a more important characteristic, however, found in the mixture of chips that vary in size from $\frac{1}{4}$ " to $\frac{3}{4}$ " and even 1"



Wall panel of terrazzo in a marble and bronze setting, New Jersey Bell Telephone Company Building, Newark, N. J. Voorhees, Gmelin & Walker, architects; executed by L. Del Turco & Brothers, Inc.

or more, producing a highly effective color variation and quality of texture. This has been employed in the floor of a Doges' bed chamber at the Metropolitan Museum, for historical correctness and decorative effect, and in other instances to secure the desired scale and interest, as in the Equitable Trust Company Building on Thirty-fourth Street, New York.

One of the most interesting examples of the possibilities of terrazzo is the pictorial panel in the wall of the main entrance lobby of the New Jersey Bell Telephone Company Building,

Newark, N. J., Voorhees, Gmelin & Walker, architects. The use of terrazzo for pictorial subjects seems to be only five years old, and to date from the exhibition of a circular panel of this kind by Bruno di Paoli in 1926.

Essentially modern in its utilization of labor-saving and time-saving methods and equipment, flexible enough to fit into either a traditional or a purely modern scheme of design, terrazzo is one of the architectural materials that will repay further study on the part of designers. It has an historic background and a forward outlook.



◀ ARCHITECTURE ▶

VILLE FRANCHE
From the pencil drawing by Vernon Howe Bailey

Architectural News in Photographs



© Hugh Ferriss

An imaginative conception by Hugh Ferriss: ground level for vehicular traffic; cars parked under buildings; escalators leading to upper-level pedestrian boulevards

A syndicate headed by Lord Southborough is to build this British Empire Building as part of the Radio City project, New York City

Below, the new City Hall, Kalamazoo, Mich. Weary & Alford, architects



Another of Hugh Ferriss's imaginative conceptions showing the city of the future with skyscrapers at quarter-mile intervals

The International House of Chicago, on the Midway front of the University of Chicago, the centre for two thousand foreign students. Holabird & Root, architects

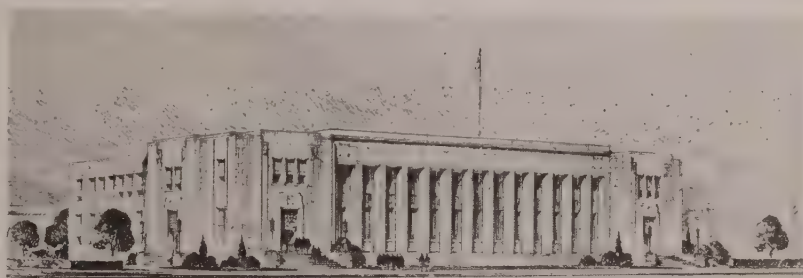




The new Field House of the University of Chicago—its interior a single great arena, 368 by 165 feet. Holabird & Root, architects



New residence halls for University of Chicago, opened last October, which, with another unit for women, will parallel the Harvard House Plan. Zantzinger, Borie & Medary, architects



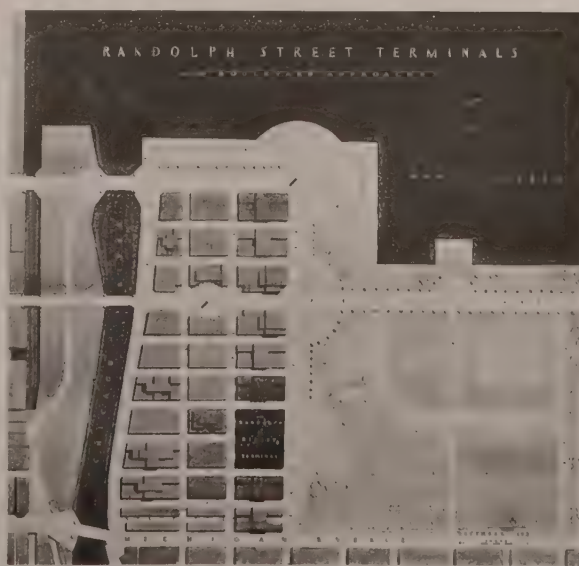
The contract has recently been let for the Stockton, Calif., Post Office. Bliss & Fairweather, architects; Howard G. Bissell, associate architect



The proposed new Post Office for Philadelphia. James A. Wetmore, Acting Supervising Architect, Treasury Department; Rankin & Kellogg; Tilden, Register & Pepper, associated architects



The proposed development of Chicago in the area east of Michigan Avenue and north of Randolph Street. At the left is a preliminary study for the passenger terminal and office building. Graham, Anderson, Probst & White, architects



BOOK REVIEWS

STANFORD WHITE. By CHARLES C. BALDWIN. 399 pages, 5¾ by 8½ inches. Illustrations from photographs and drawings. New York: 1931: Dodd, Mead & Co. \$3.50.

Here is a book that would seem to be of interest to the whole profession, young and old. Mr. Baldwin has given us not only a vivid picture of White, chiefly through his letters, but a picture also of his times and his contemporaries, which means in effect that he causes to relive most of the characters in a distinct epoch of American art history.

CALIFORNIA GARDENS. By WINIFRED STARR DOBYNS. Foreword by MYRON HUNT. 20 pages and 208 plates, 8½ by 11 inches. Illustrations from photographs. New York: 1931: The Macmillan Company. \$5.

Here is abundant evidence that California has been developing gardens that are as well worthy of attracting pilgrims as are most of the gardens we journey abroad to see. The photographs apparently are up to the high standard we expect from California, but the reproduction process, unfortunately, falls far short of measuring up to their excellence.

HUMIDIFICATION FOR RESIDENCES. By ALONZO P. KRATZ. 30 pages, 6 by 9 inches. Illustrations from photographs and diagrams. Bulletin No. 20. Pamphlet binding. Urbana, Ill.: 1931: University of Illinois. 20 cents.

Arriving at the conclusion that it is not possible to evaporate sufficient water in pans or in warm-air furnaces to maintain 40 per cent relative humidity in cold weather.

THE PREPARATION OF ZONING ORDINANCES. A Guide for Municipal Officials and Others in the Arrangement of Provisions in Zoning Regulations. By the Advisory Committee on City Planning and Zoning of the U. S. Department of Commerce. 28 pages, 6 by 9 inches. Pamphlet binding. Washington: 1931: U. S. Department of Commerce, Bureau of Standards. 10 cents.

THE TEMPLE OF THE WARRIORS. The Adventure of Exploring and Restoring a Masterpiece of Native American Architecture in the Ruined Maya City of Chichen Itzá, Yucatan. By EARL H. MORRIS. 251 pages, 6¼ by 9 inches. Illustrations from photographs, drawings, and colored frontispiece. New York: 1931: Charles Scribner's Sons. \$5.

The author has been digging in archæological dust heaps all his life. With Dr. Sylvanus G. Mor-

ley, of the Carnegie Institution, he directed excavations during four years in connection with this great monument of aboriginal American architecture. His book is a thrilling account of a great adventure.

A NEW TEST FOR PREDICTING THE DURABILITY OF VARNISHES (THE PHOTO-CHEMICAL EMBRITTLING TEST). By J. H. WILSON. 11 pages, 6 by 9 inches. Illustrations from graphs. Research Paper No. 333. Pamphlet binding. Washington: 1931: U. S. Department of Commerce, Bureau of Standards. 5 cents.

HARVARD CITY PLANNING STUDIES.

1. **AIRPORTS.** Their Location, Administration and Legal Basis. By HENRY V. HUBBARD, MILLER MCCLINTOCK, and FRANK B. WILLIAMS. Assisted by PAUL MAHONEY and HOWARD K. MENHINICK. 190 pages, 7 by 9¾ inches. Illustrations from photographs and plans. Cambridge, Mass.: 1931: Harvard University Press. \$3.50.

Harvard University established in 1929 its Graduate School of City Planning with research as a principal function. The facts and conclusions developed are to be published as The Harvard City Planning Studies, of which this is the first, and two other volumes follow herewith. It is expected that two or three volumes will appear each year.

2. **BUILDING HEIGHT, BULK AND FORM.** How Zoning Can Be Used as a Protection Against Uneconomic Types of Buildings on High-Cost Land. By GEORGE B. FORD. Assisted by A. B. RANDALL and LEONARD COX. 188 pages, 7 by 9¾ inches. Illustrations from photographs, drawings, and graphs. Cambridge, Mass.: 1931: Harvard University Press. \$3.50.

A posthumous record of George B. Ford's findings in his wide research and experience with city planning.

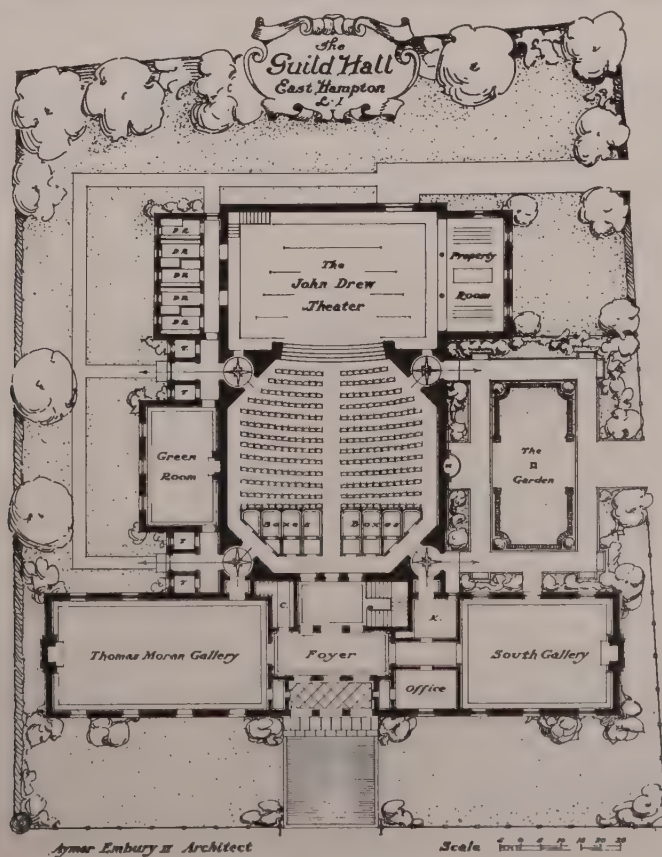
3. **NEIGHBORHOODS OF SMALL HOMES.** Economic Density of Low-Cost Housing in America and England. By ROBERT WHITTEN and THOMAS ADAMS. 205 pages, 7 by 9¾ inches. Illustrations from photographs, drawings, and graphs. Cambridge, Mass.: 1931: Harvard University Press. \$3.50.

In contrast with the previous volume of George B. Ford's studies of the intensive use of high-cost land, here is presented a study to determine how sparsely we may spread the population and still meet the cost of city improvements and adequate housing. Mr. Whitten and Professor Adams speak respectively for the United States and England.

Two New Community Playhouses



Photographs by Richard Averill Smith



THE GUILD HALL,
EAST HAMPTON,
LONG ISLAND

AYMAR EMBURY, II,
ARCHITECT



*The long entrance front with the South Gallery in the foreground
and the Thomas Moran Gallery beyond the entrance*

*The garden entrance side, the painted brick walls of the auditorium
proper looming up in the centre*





A detail view of the garden entrance with one of the auditorium exits beyond and the property room lean-to at the right



The auditorium as seen from under the balcony. Again an oyster-shell color of the plaster, striped with silver, the hangings are of blue and rose



The seats are upholstered in rep, rose on the face and blue on the back. The canopy form of ceiling is painted in blue and silver on plaster

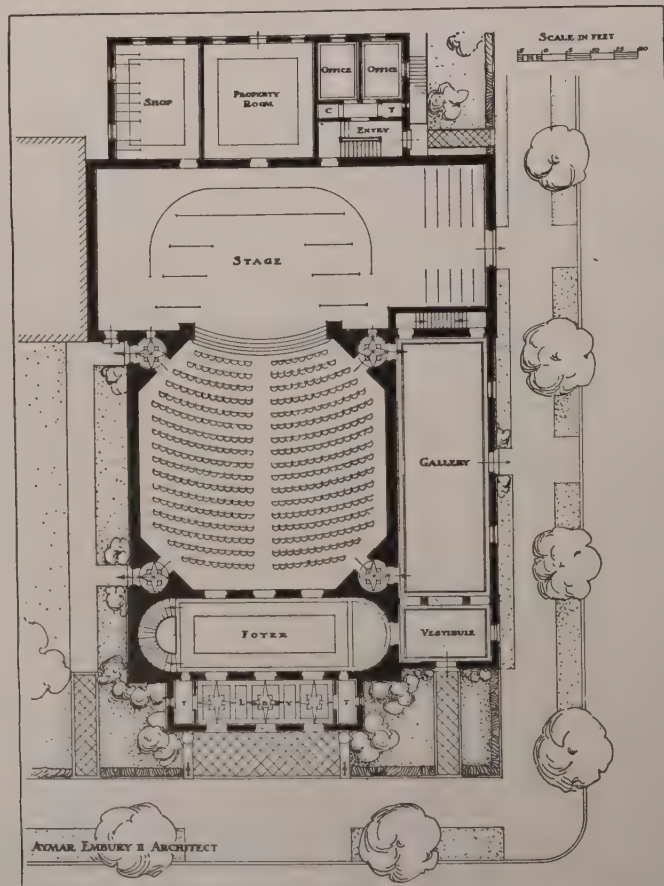


Fireplace and mantel details in the Thomas Moran Gallery. Walls are sheathed and panelled in painted pine; the floor of mastic tile



Two views of the Thomas Moran Gallery. The vaulted ceiling is finished in a natural hard plaster





THE KALAMAZOO
CIVIC AUDITORIUM

AYMAR EMBURY, II,
ARCHITECT



The exterior is in limestone, approaching tan in color; the windows, steel painted with aluminum paint; the doors, stainless steel; roof, copper; flèche, chromium plated. The lettering over the entrance doors is pierced through the limestone, and lighted from behind glass



In the foyer the doors are in blue and silver, the floor of rubber tile



The auditorium itself has a simulated travertine base with painted plaster above picked out in goldleaf. The hangings are in jade and rose



The gallery which, as shown on the plan, gives abundant entr'acte space



The auditorium as seen from the stage



The lobby, with a ticket window at either end. The floor here is of terrazzo in pink and two middle tones of gray

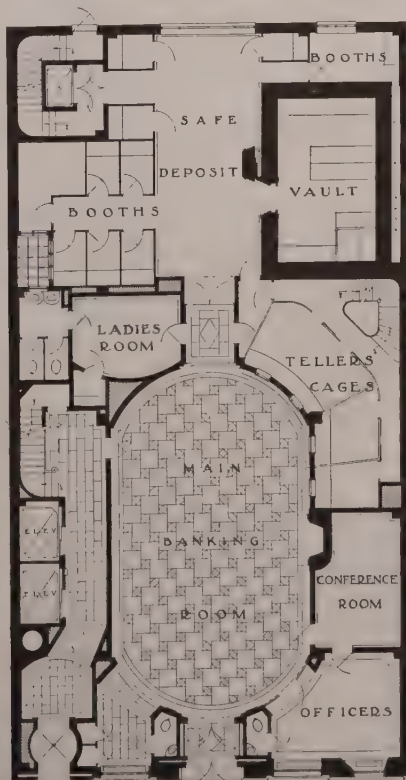


The balcony foyer, where the almost white plaster is relieved by the strong pattern of the printed hangings and highlight ornament in silver



Photographs by Paul J. Weber

The banking building has exterior walls of granite, unusually fine grained and of a warm tone—known as Connecticut White. This



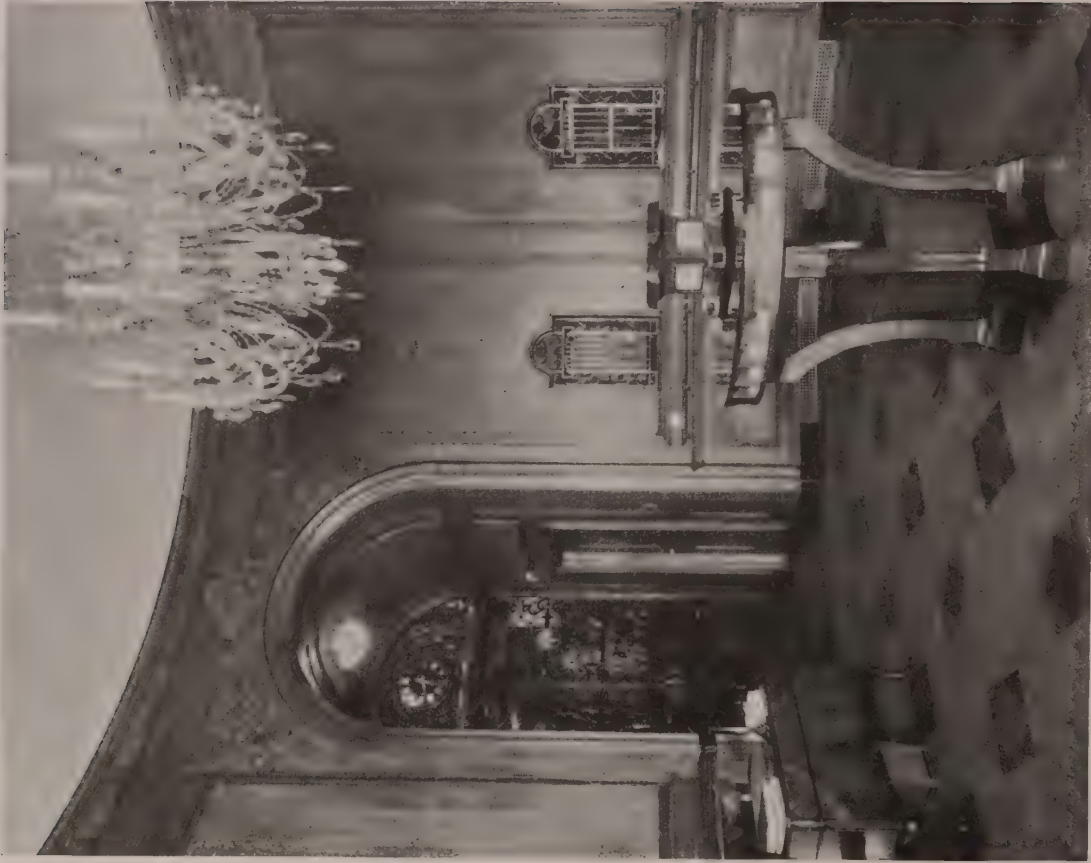
granite usually has been confined in its use to small projects like mausolea. All windows and doors are of bronze

THE NEW ENGLAND TRUST
COMPANY,
BRANCH OFFICE,
99 NEWBURY STREET,
BOSTON, MASS.

HENRY & RICHMOND,
ARCHITECTS



The main banking-room, looking toward the entrance; the walls are of Slavonic oak. Wrought-iron rails, wickets, and gates are by Koralewsky



Main banking-room, looking toward the safe-deposit department on the same level. The architects have attempted to give the banking-room an intimate and domestic character

◀ ARCHITECTURE ▶

Monday, December 28.—Three students of the Harvard Engineering School recently visited fifteen of the leading cities in America, studying traffic conditions, and find that: "The only method a city may hope to use to grow



The Editor's Diary



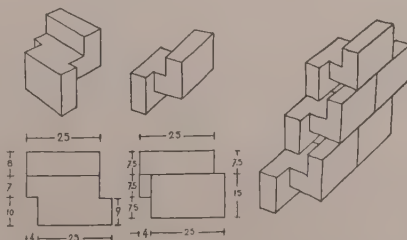
is by tying new building to transportation; if the means of transportation are not altered by some as yet undeveloped agency the line of future growth will lead toward large-scale, self-contained buildings."

Thursday, December 31.—Felicited James Monroe Hewlett upon his appointment as Director of the American Academy in Rome. He tells me he is going over in March for a few weeks, returning there again in the early fall to take up his work. I suppose Mr. Hewlett is to be congratulated, but far more so is the American Academy in Rome.



Friday, January 1.—The great plan for New York and its environs, which has been in the making for some years under the stimulus of the Sage Foundation, has been completed. The result is greeted by Robert Moses, former Secretary of State and president of the Long Island State Park Commission, as visionary. I wonder whether he or any of us ever knew a really good plan that was not visionary. It has to be, else it is not a good plan for the future. "Where there is no vision the people perish."

Saturday, January 2.—Some one is always designing a new building unit with the purpose of avoiding some of the



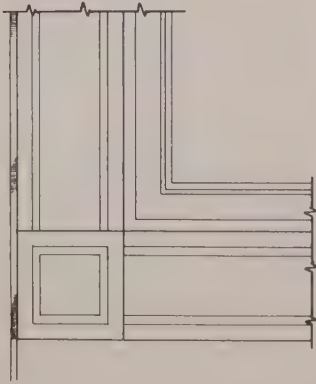
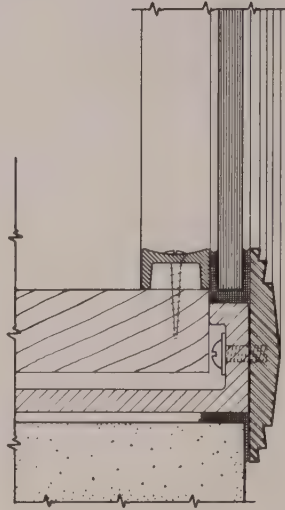
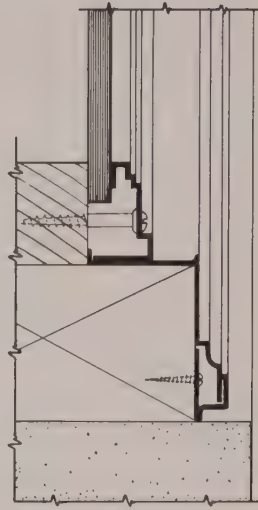
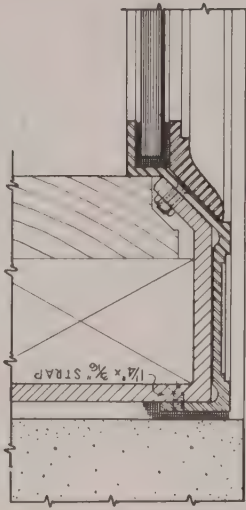
The dimensions are in centimeters

shortcomings of brick. Here is one of the most elaborate ones we have seen, as published in *Rassegna di Architettura*, Milan, in which considerable ingenuity has been shown in avoiding through joints and securing a hollow space within the wall.

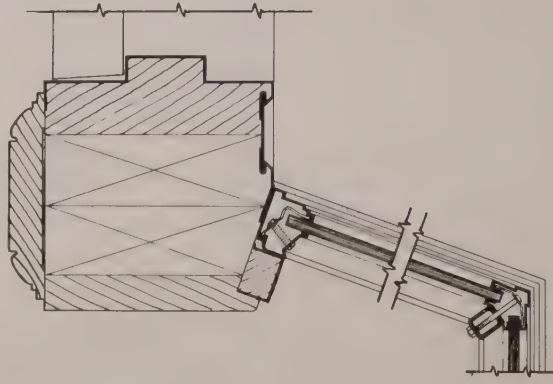
Monday, January 4.—E. N. Jenckes, of Springfield, Mass., who does a lot of clear thinking about architectural matters, and frequently expresses these thoughts in *The Springfield Republican*, writes me that the discussion about St. Thomas's new window back of the reredos brings up another point in ecclesiastical architectural design that worries him. This is the tendency in some of our recent work to allow the reredos to conflict with the windows. In some cases finials of the reredos project into the field of the window, interfering with the design of that unit. In others, the interference is even more marked. He mentions the Epworth Euclid M. E. Church in Cleveland, where the reredos partly interferes with the lower half of the east rose window. In Goodhue's Chapel of the Intercession, the canopy cuts off the lower part of the window from the worshipper in the nave. In Cram & Ferguson's St. James Protestant Episcopal Church, the new altar projects its terminals above the sills of the row of windows across the east end. At Christ Church, Crambrook, the interference is marked. Jenckes does not understand why architects allow the reredos to appear as if it were lugged in as a convenient piece of church furniture without relation to the architectural design. On the other hand, it seems to me likely, in view of the frequency with which this occurs, that the architects have felt the necessity for permitting some overlapping of the two sets of elements. One difficulty, however, is that if the reredos stands well out from the face of the wall, these upper elements are constantly changing in their relation to the window as the observer moves across the nave.

Wednesday, January 6.—Hobart Upjohn and I dined with Edward S. Hewitt, our chairman of the Education Committee, New York Chapter, A. I. A., and discussed a tentative scheme for furthering adult architectural education. If there is one profession more than another in which the practitioner is never even satisfactorily educated, it is that of architecture, yet most of us do nothing about it.

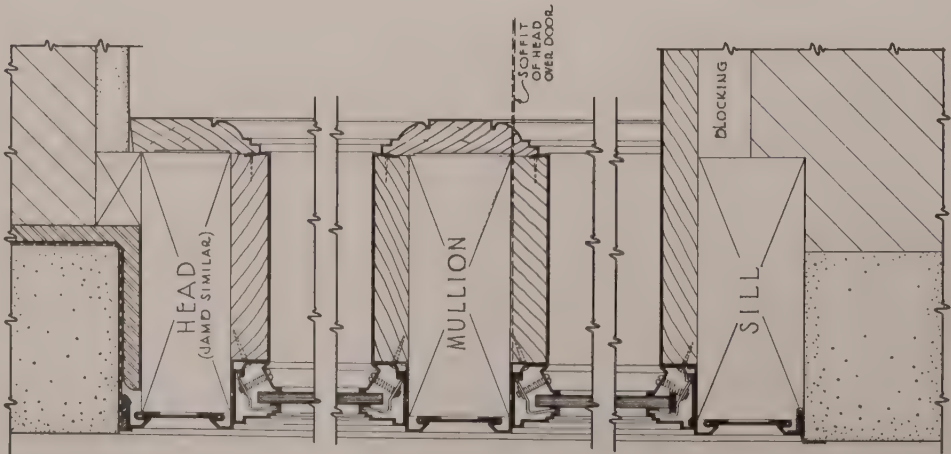
Thursday, January 7. — To-night proved to be one of the most successful weekly gatherings of The Architectural League in recent years. It was a joint meeting between members of The League and members of the American Society of Etchers. Chester Price, Albert Flanagan, and Emery Roth had



ELEVATION OF TRIM



PLAN AT DOOR



SECTION

VARIOUS JAMB DETAILS

STORE FRONT CONSTRUCTION

A SERIES OF
WORKING DRAWINGS
BY JACK G. STEWART
- PLATE NO 22 -

SCALE: 1/4" = 1"

hung a representative exhibition of modern American etchings, and John Taylor Arms communicated to a crowd of nearly two hundred much of his own enthusiasm for the line in etching. By the time he had finished speaking one almost felt that he might be able to sense the fundamental differences between the line of Zorn and that of Whistler, and be able to distinguish the difference between a line etched with nitric acid and a line etched with hydrochloric acid. And yet I find it difficult to tell unmistakably a dry-point from a bitten plate.

Friday, January 8.—There has been some suggestion of an evolution in our bedrooms. With the mounting appreciation of the benefits to be gained by outdoor sleeping, one sees a growing use of the bedroom as an auxiliary dressing-room. I wonder, however, why some one has not gone one step farther and built a sort of sleeping-bunk in the thickness of the wall. On the outside one would have, possibly, sliding shutters as protection from too much air, rain, or snow, while on the inside there would be a similar pair of sliding shutters for admitting one to the bunk, and keeping the bedroom itself warm. On arising in the morning, one would merely close the outside and open the inside, from which side, of course, the bed would be made up. Adjoining the bunk space could be the necessary closets to fill out what would be in effect a three-foot furring.

Monday, January 11.—The Highway Research Board, Washington, tells us that we should not put common salt on icy pavements, thereby destroying our faith in one more of the old-fashioned home remedies. Cinders are probably the best material for slippery pavements, though coarse sand is an acceptable substitute. Calcium chloride is the best agent for melting the ice, rather than sodium chloride, or common salt.

Tuesday, January 12.—It seems likely that one of the live subjects to be discussed at the next A. I. A. Convention is the Architects' Small House Service Bureau. The Architects League of Northern New Jersey has been rallying the opposition for some months, and says that it numbers among chapters of The Institute and other associations of architects, seventeen such bodies.

Wednesday, January 13.—Sears, Roebuck & Company are not to be left alone in their development of a financing scheme in house building. The Associated Leaders of Lumber and Fuel Dealers of America has sponsored the formation of the National Homes Finance Corporation. The plan provides for plans and specifications with the approval of the Architects' Small House Service Bureau, construction supervision by a local member of the same organiza-

tion, guaranteed workmanship and certified materials, a first mortgage up to 75 per cent of the value of house and lot, with amortization of the whole in fifteen years. There is also an opportunity for insurance on the owner's life, covering the amount due above a 50 per cent mortgage and providing also against the lapse of monthly payments through sickness or accident.



Thursday, January 14.—There was a difficult choice of available lectures to-night: Dr. Hartley Burr Alexander at The League, telling of the symbolism developed in the Nebraska State Capitol, and, on the other hand, a discussion of home lighting at a joint meeting of the Illuminating Engineering Society and the Electrical Association of New York. I chose the latter, and heard an interesting paper by Mrs. Bernice Bowser on "Where Is Europe Leading Us in Home Lighting?" an informal talk by Paul T. Frankl, representing the point of view of the modernist decorator; and a talk by Dwight James Baum, representing the open-minded traditionalist. Frankl's argument was that a lighting fixture of any kind is an absurdity—what we need is *light*, secured as unobtrusively as possible, and the best solution is the portable standard, a little over six feet high, directing the light against the ceiling. He begged, however, for a better attention to dimming devices for this feature. Dwight James Baum showed us a number of slides in which lighting fixtures had been designed not only for the sake of the light they give, but as important elements in the decorative scheme. So long as we hold to traditional styles for interiors, or even attempt to adapt these to our present needs, we find it difficult to get rid of the candle-holder in some form. When we work frankly in the mood of utilizing present-day materials and methods without eclecticism, we turn naturally to a more logical form of expression of the incandescent wire.

Friday, January 15.—Alexander Weaver Ebin gave me a rather vivid picture of Edgar Miller, artist and craftsman of Chicago, a man who learned to draw in the Australian bush, having found an old bookkeeping ledger with many blank pages. Those who know him marvel at the versatility of the man. He carves wood, designs and makes leaded glass, paints murals, makes water-color story books for his children, etches on copper, teaches art, and has an unerring instinct for putting animal life on paper or canvas. Earl Reed has promised to attempt a picture of the man and his work.

Saturday, January 16.—Donald R. Dohner, Director of Art in the Engineer-

ing Department of the Westinghouse Electric and Manufacturing Company, puts a definition of modern art into rather clear English.

"Modern art is a sensible art—a utilitarian art, an engineering art. Much has been heard of the 'modern manner,' worse still, the 'modernistic.' Much has been made of queer angles, zig-zag lines, childish color schemes, 'galloping gazelles'—all this is thought of as modern. This is modernistic; it is the mannerism of cheap faddists.

"But the real and vital art, the art that is modern, is the art reflecting our contemporary life. It is an art that grows out of and is related to our needs, our materials and methods of doing things. It is natural, unaffected and honest. It is limited by function, materials and manufacturing processes. Undismayed, the creative artist or designer recognizes these limitations and rises above them to produce something simple, direct and beautiful."

Monday, January 18.—The architects of the Radio City project have decided upon cast aluminum for the spandrels, of which the ten building units will require twenty-two thousand. The piers, as announced some time ago, are to be buff and gray limestone.

Tuesday, January 19.—"In what employment do you intend to excel, O Euthedemus, that you collect so many books? Is it architecture? For this art you will find no little knowledge necessary."—SOCRATES.

Wednesday, January 20.—I am wondering whether the people of New York City are really awake to the fact that they now have a plan. Thomas Adams says: "The growth of New York to a city of twenty millions or more in the next forty years is a thing to be feared—if it grows on in haphazard fashion; but it is a thing to be welcomed without fear if it is directed aright." Years of study and the labors of many men have gone into the Regional Plan of New York and Its Environs. All this will be as nothing if the people of New York cannot be made to realize that their city is rapidly becoming a hopeless tangle. It is probably impossible to force such a realization upon a whole city. It may be possible, however, to drive home one point at a time in a steady onward march toward approximating the plan.

Saturday, January 23.—Rutherford Boyd and I spent an interesting afternoon in experimental photography of mathematically related figures. It seems a remarkable fact that in all of the hundreds of years of study and investigation of harmonious areas and their relationships, no one apparently has hitherto carried the study one step farther into three dimensions. Boyd has been

doing this for several years, and the significance of the results may be appraised in the near future when we hope to present in these pages the photographic evidence.

I missed the Beaux-Arts Ball this year, unfortunately, for as a "Pageant of Old New York and the First Inaugural Ball of the United States of America" it is reported to have been one of the best in a long line of magnificent spectacles. Kenneth Murchison, of course, was George Washington; James Monroe Hewlett was Benjamin Franklin; Fred Hiron was Count Kosciusko. Mr. and Mrs. William Van Alen, like many other men and women of the art world, impersonated their ancestors of early New York.

Sunday, January 24.—Dropped in at the Museum of Modern Art to see Diego Rivera's drawings, portraits and frescoes. Some of his earlier drawings give abundant evidence of the man's ability to draw. I wish I could manage to understand why he and others who can draw well enough avoid doing so, and prefer distortion instead. There must be some good reason for their choice, but what is it?

One says that it is absurd to attempt realism in painting—it cannot be carried beyond photography; rather try to convey a mood, an idea, in some such way as the primitives convey it; get back to the elemental message that needs no realism, no sophistication. I can sympathize with that point of view if it were worked out as Augustus Tack creates a symphony in color in oils—without form, without any attempt to picture anything—merely arousing an emotional response through abstract color. And I can find real joy in abstract design, pattern, on almost any basis. What is quite beyond my grasp is the painting that crosses back and forth between these separate paths, seeking to express rhythm through distorting lines that my mind reaches for as graphic representation of flesh and blood, stones or trees; seeking to arouse an emotional response through crudity when we are tuned to subtlety. Why go back to digging a canoe out of a solid log—the primitive, when we can make one so much better with thin strips of polished mahogany?

Picked up Charles C. Baldwin's "Stanford White," and read far into the night this fascinating picture of a great personality.

Monday, January 25.—What happens inside steel beams under stress has long been one of the inscrutable mysteries. F. R. Hensel and C. W. MacGregor, Westinghouse research engineers, have developed a technic through which we are now able to see the interior strains of certain kinds of steel. Stresses of steel members carried

slightly beyond the limit of elasticity develop miniature flow lines on the outer surface and upon a cross section. Fry, a German physicist, some ten years ago discovered a way of etching these flow lines with hydrochloric acid to bring them into visible relief. His discovery was limited, however, to steel with a certain nitrogen content. Hensel and MacGregor now have extended the etching process to open-hearth steels through a method of nitriding before etching.



Tuesday, January 26.—The annual meeting of the New York Chapter, A. I. A., was held in connection with a dinner at The League to-night. Messrs. Shreve, Lamb & Harmon were awarded the Chapter's Medal of Honor for 1931, "for distinguished work and high professional standing," as further noted in the Bulletin Board pages. Shreve was telling something of his recent trip to the Far East, adding his verdict to that of numerous others who have been there, to the effect that more of us in the profession should extend our architectural travels beyond the usual European limits.

Professor Pierce of Johannesburg, South Africa, was a guest who brought some news of this far-flung architectural frontier. They have an organization down there somewhat similar to the Institute, but consisting of four provincial bodies as compared with our fifty or more chapters.

Messrs. Williams, president of the New Jersey Chapter, Cantor of Brooklyn, Perry of the Westchester Society of Architects, and Tabor of the Architects League of Northern New Jersey, spoke briefly, and all indicated very clearly that the Architects' Small House Service Bureau occupies the centre of the stage at the moment in most architectural organization discussions. It appears that the next convention in Washington will be a battleground on the subject.

Robert D. Kohn gave us an encouraging picture of conditions throughout the country as gathered in his recent presidential travels. Even though the depression covers the whole country, the west coast and, indeed, most of the smaller communities, feel it less, or at least discuss it less, than we of New York.

Wednesday, January 27.—Slowly but surely there is being felt a movement tending to stabilize the marketing of industrial products by means of guarantees and certification. The American Standards Association reports that manufactured commodities valued at over a billion dollars were sold last year

by more than fifty industries under some plan of guaranteeing the quality to purchasers. This is entirely aside from agricultural and dairy products, four billion dollars' worth of which were sold under guarantees last year. Thirty-five per cent of all soft wood is so sold, fifty per cent of hard wood; gas-burning appliances, electric appliances, gas and oil equipment, fire and burglary protection appliances, flooring, wall paper, brick, concrete mixers, heating systems, clay tile, electric-wiring installations, concrete reinforcing steel, roofing materials, malleable iron, mirrors, steam boilers, and elevator safety devices—all these are now sold under grading rules or certification guaranteeing compliance with standards set up by the industries themselves.

Thursday, January 28.—Face brick has joined the steadily growing list of building materials which are being sold under standards that protect both buyer and seller. Standard grading rules that have been in process of preparation for more than a year will henceforth be used as the basis on which face brick are sold. Details of these classifications will be found on the Bulletin Board pages.

Friday, January 29.—Well over a hundred of his confrères gathered at dinner in The Architectural League rooms to-night to honor James Monroe Hewlett. It was one of the most enjoyable occasions held in The League for many a long day. Apparently most of the architects, sculptors, painters, and landscape architects whose names glow in the art firmament, were delighting in paying tribute to the man who is to direct the American Academy in Rome for at least the next three years. Julian Clarence Levi presided, introducing C. Grant La Farge on behalf of the trustees of the Academy, James Monroe Hewlett himself in his own defense, Cass Gilbert, Royal Cortissoz, and Ken Murchison. A more single-minded and vociferously enthusiastic gathering would have been hard to find. All were imbued with the single purpose of telling Jimmie Hewlett how much they thought of him and how inspired was the selection of the trustees.

Saturday, January 30.—I see that Carl Milles is going to renounce the land of his birth, Sweden, to become an American citizen, which news will doubtless be as disappointing to Stockholm as it is satisfying to America, and particularly Cranbrook, Mich., where he will continue to teach sculpture at the Cranbrook Foundation.

Sunday, January 31.—Started a belated reading of Lewis Mumford's "The Brown Decades" which, whether one agrees with all of his contentions or not, is vastly stimulating.



Photographs by Samuel H. Gottscho

Model of a Country House

GREVILLE RICKARD, ARCHITECT; ROBERT FOWLER, LANDSCAPE ARCHITECT;
JOSEPH H. MESSINIO, MODELLER

The model is constructed of cardboard over which, for the walls, was pasted a paper die-stamped to simulate brickwork; greater unevenness of the brickwork was secured with thick water-color paint. The cardboard roof was lined with a fine-tooth comb, and painted to represent tile. Windows are of celluloid ruled with white oil paint. Elm trees are of goldenrod and mineral wool; fruit trees of twisted wire covered with gesso painted brown, with mineral wool and ground hominy for blossoms; small hedges, cedar and poplar trees, of green rubber sponge. The woven fence is made out of a French broom





Paths are of fine sand sifted over a glue base. The lawn areas are given a somewhat uneven texture with cold-water paint, stippled, which was afterwards painted in greens and browns

Some Pitfalls in Supervision

WHEN nature crystallized grains of calcite, she performed an alchemy which

gave man one of his most prized building materials. According to geologists, the marbles of the Atlantic seaboard were formerly limestone deposits, while the onyx types of marble are the residue of mineral-laden cave waters. The American marble that was formerly limestone is generally of a white, gray, or black tone, and is found to a large extent in Vermont, Massachusetts, Connecticut, and Georgia.

It is self-evident that the requirements in a marble suitable for interior use are different from those for exterior use. The National Association of Marble Dealers has officially adopted four classifications for marbles used in interior building construction which list those that may have wax, liners, reinforcements, etc. They do not denote relative value or permanency but merely outline what in each case is most acceptable, based on trade usage. As architects know, many of the most decorative marbles are in the group which require much wax, and liners to support them.

The superintendent will find that most finishes for the interior marble will be specified to be either polished or fine sand finish. The latter is the one generally used for stairs or floors. For marble floors the specification writer will presumably have called for a marble that will stand the wear and tear of pedestrian traffic, offering suitable resistance to abrasion, but it may be well for the superintendent to check him on this point. Having satisfied himself both as to this matter and the proper thickness of the slabs, the superintendent must see that a cement mortar of 1:3 mix, plus 10 per cent of hydrated lime is used. The back of the slab should first be well grouted and then pounded down into a full bed of mortar. The joints will then be grouted with neat cement. Of course no one should be allowed to walk on the floor until the bed is absolutely set and dry.

Besides ascertaining whether the marble base is set accurately, it should first be checked for thickness specified. The base should be properly anchored with non-rustable anchors and supports. If the floor is not to be of marble, but of concrete or terrazzo, it will be well to appoint some workman to free the marble from all the

By W. F. Bartels

XVIII. MARBLE

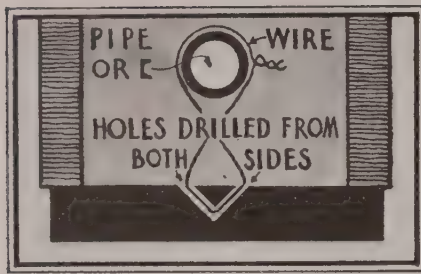
cement immediately after the floor is installed, for it will be extremely difficult to cleanse later.

Before inspecting wainscoting it is necessary to find out the kind of joints that are desired at the corners—whether they are to be butt or mitred joints, or if there are any special features in the specifications. In all cases the slabs must be well anchored by means of heavy brass wire. This is done by punching a hole in the tile or other backing, and filling it with plaster of Paris into which the brass wire is pushed. As soon as the plaster of Paris hardens, a solid anchorage is formed for the wire which has had the other end inserted in a hole drilled in the marble. This is slow and exacting work, and if not closely supervised there is a great likelihood that the anchoring may be “forgotten.”



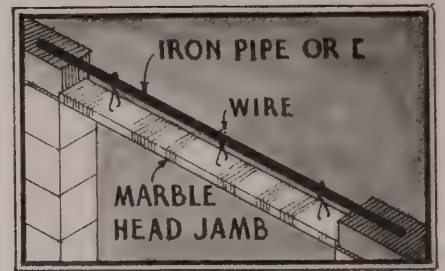
Where a marble slab is used as a soffit, being no thicker, usually, than the vertical slabs, it should be adequately supported. One of the best ways to do this is to put a strong rod, pipe, or channel across the opening above the soffit. Then the slab has a hole drilled in the back of it so as to secure the wire which is in turn fastened to the support. If there is no room for a separate hanger it will be necessary to use the same method that is used on vertical work, but in addition make sure that the soffit is adequately supported until the plaster of Paris is absolutely hard and dry. There should be an air space back of the marble wherever possible, and it is better to put liners or other reinforcement on the back of the slabs rather than have them crack after they are set. This does not mean that the marble can be thinner than specified and then reinforced, for it applies only to those classifications in which the use of liners is permissible. Likewise with waxing a damaged slab in a classification not allowing waxing—it should not be repaired and then palmed off as being just as good.

In the matter of plastering, it is probably better from the standpoint of efficiency, as well as from workmanship, to have the plastering done before the marble is set, since the damage to the marble from plastering will far offset the



At left, section through marble soffit showing pipe support for the slab

At right, looking down upon the marble soffit wired to its pipe support



slight inconvenience caused by the patching necessary afterwards. Were the marble to be set first there is great danger of its being damaged by the plaster and plastering.



After the final slab is set, the problem of protection arises. The corners and other projecting parts must be covered with wood to prevent damage. When marble saddles are used the painter should not be allowed to use kerosene, oils or acids to clean the door bucks, because there is every likelihood that he will drop some on the saddles and thus ruin them.

In selecting marble for exterior work, durability is of course necessary, and the contributing factors should be investigated. Porosity is one of the most important. The less porous the marble the less will dirt-laden water be absorbed and the less gas in solution will be carried into the stone. Then, too, the marble should be of a uniformly close grain. It should be free from impurities which might disfigure its surface in the course of time. Marble should be uniform throughout and not of various layers, such as alternate strata of calcite and dolomite. The last-named combination is undesirable because of the unequal weathering which develops.

When the marble arrives on the job it should be checked to see that the surfaces are true, that the edges are square, and that in every way the marble conforms to what has been specified.

The mortar used should be composed only of a non-staining cement, clean sand and a small amount of hydrated lime (generally 10 per cent). No non-freezing compound should be allowed unless the manufacturer specifically states that his product may be used in the mortar for marble setting.

In setting the blocks, care should be exercised to see that no compression occurs on the

edge of the block, because this might very easily cause chipping and spalling. To this end it is well to rake out the joints and afterwards point them up. Here, too, as in other stonework, a pressure-relieving joint may be used, which will eliminate to a very large extent the chances of cracks due to expansion.

Anchors should be brass, bronze, or galvanized iron. If plain iron is to be used it should, after being formed, be painted or coated with some preparation to prevent rust and be allowed to dry before being used. Any uncoated iron coming in contact with the stone is sure to cause a rust spot sooner or later. The same precautions must be exercised in connection with the use of dowels. The latter must not be jammed in too tightly; their coefficient of expansion, being different from that of the marble, will cause trouble. Then, too, care must be exercised as to the material in back of the marble; it must not be of any substance which will cause the marble to change color or show spottiness.

In setting exterior marble it is neither good nor safe practice to set more than two courses at one time without their being backed up. To exceed this number not only invites their tumbling down but causes the blocks to get out of alignment and to damage the mortar bed. When unusually tall slabs are set it is well to see that they are held in position by means of braces or other supports until the beds are set and they themselves are fully backed up.



It goes without saying that no acid is to be allowed in connection with any marble work. On the exterior façade, if the upper stories or those above the marble work are of brick the superintendent will have to be doubly vigilant to protect the marble of the lower stories. Projecting parts such as sills, water-tables, etc., must be provided with temporary protection.

CONTACTS

DEVOTED TO A BETTER UNDERSTANDING OF THE BUSINESS SIDE
OF ARCHITECTURE AND ITS RELATION TO THE INDUSTRIES



THE preparation of plans and specifications is a primary function of the architect. The builder in turn covenants to undertake the execution of the contract in accordance with the terms of plans and specifications. He thus acquires a vested interest in the character and competency of these documents.

The portrayal of a three-dimensional world in terms of length and breadth through the media of plans and specifications is no mean undertaking. Plans are devised for the purpose of outlining space requirements and design. Specifications are designed to cover the quality of materials and workmanship. These constitute the language of building and should be considered supplementary, one to the other.

According to the dictionary, a specification is "A detailed statement of particulars." This same definition should apply to that portion of the contract documents delineating the quality of materials and methods of construction.

It is certain that eventually the specification will find its way into the hands of three or more groups in the builder's organization: the estimator, the purchasing department and the expeditor, and through these to countless sub-contractors and manufacturing plants.

To meet the peculiar requirements of each of these groups three primary qualities are essential in the specifications: clarity, brevity and form.

It must be assumed that the builder and his associates have no previous knowledge of the undertaking. The familiarity that will lead to intelligent bidding and effective execution must be acquired, usually under unfavorable circumstances, by perusal of these documents. It is self-evident that a specification deficient in these three qualities can but lead to excessive costs and annoyance and irritation throughout the life of a building venture.

A bidder uncertain of the true intent of the specifications has two alternatives at his disposal—either to submit a figure sufficiently high to

A Builder Looks at Specifications

By
R. P. Wallis

cover any possible interpretation of the architect, or to quote on the lowest possible standard, trusting to his ability to talk an extra out of the architect for complying with the obvious intent of the contract documents. In neither instance are the interests of the owner furthered.

Many uncertainties might be disposed of during the bidding period were it not for the brief time allotted for the compilation of an intricate and extensive group of figures, frequently embodying many perplexing and sometimes unnecessary alternatives.

As it is, many of the builder's doubts and uncertainties do not find expression until the work is well under way and it is too late to take cognizance thereof in the original contract.

Let us first examine the consideration of clarity and its effects upon the conduct of a building operation. Assuming the competence and integrity of the architect, he has something to say in his specifications of the utmost importance to the builder. It is essential that this statement be couched not only in language that may be understood but in terms which may not be misunderstood. The writer of the specifications should place himself in the position of those into whose hands his work will pass. Does it convey his thoughts exactly? Are the facts presented clearly and graphically? Can he or his representative in the field point to the specification as irrefutable authority in contesting possible claims and arguments of the builder?

Many factors enter into the preparation of such a specification. Practice varies in different architectural offices. Specifications range in inclusiveness from those documents designed to cover any possible type of construction to that written for a particular job. Some specifications go so far as to refer to drawing numbers for details of construction. The advent of such a specification in a contractor's office is an occasion of note. The builder is reasonably assured that such a specification has been co-ordinated with the drawings so as to be truly supplemental.

Many specifications call for material of a certain nature to be furnished where shown on the drawings. Sometimes even the most minute scrutiny fails to reveal such an installation. Is the contractor to furnish this material or not? If so, in what quantity and in what locations? In any event the owner is penalized. Proper credit for omitted items is difficult to obtain. Should the contractor omit such material from his estimate and be later forced to furnish same, some owner foots the bill, as owners are to the building industry what the ultimate consumer is to industry in general.

Access doors are sometimes shown of wood and specified of steel. Size of grilles varies as between plans and specifications. These and many other discrepancies, sometimes of major, often of minor, import, cause the builder to wonder occasionally if the specification writer really ever saw the working drawings.

A painstaking study of the drawings would obviate such inconsistencies and is essential in the preparation of any specifications.

Aside from this knowledge of drawing requirements the writer must be technically informed as to the physical and chemical properties of the material which he is specifying. To be sure this is a large field, but there exist fortunately many accessible sources of information.

The use of marble is particularly illustrative of the value of technical knowledge. Marble for floors is usually selected for its color and pattern. However, the wearing quality

is fully as important, as indiscriminate use of soft and hard marbles in the same area can but lead to an untimely rough and uneven floor surface.

A knowledge of the requirements of the Underwriters' Laboratories should be included in the curriculum of the student specification writer. A blanket clause calling for proper observance of such requirements is but an unwarranted delegation by the architect of his responsibility to the builder.

Frequently a door is specified to bear the Underwriters' label, but nothing is said about the frame. Again, motor-operated steel shutters are specified to be labelled. The rules of the Underwriters prohibit such a combination. A shutter may be motor-operated or it may be labelled, but it cannot be both.

The writer of the specifications must keep in mind the fact that he is composing literature; not a "best seller," but literature nevertheless. Proper punctuation, the dictates of unity and proper paragraph structure should all be scrupulously observed in a document such as this. A missing comma has been known to alter the entire sense of a phrase or sentence.

Specifications should be carefully proof-read and checked before being issued to the builder, inasmuch as they are to serve as the basis for financial commitments amounting to thousands of dollars.

A frequent source of vexatious discussion is the use of the term "or equal," often used by the architect in designating his preference in the selection of various products. This unconscious evasion of responsibility only postpones the day when the incompetent architect must answer "yes" or "no," and frequently tends to the submission of inferior substitutions in the hope of getting them by the architect. The competent architect should be sufficiently familiar with building products to list in his specifications a number of brands any of which would prove satisfactory to him. A tight specification is not necessarily to be desired, but there is little to gain by inviting unlimited competition. Once listed in the specifications, the architect should be prepared to accept any of the articles so covered.

The question of a door and room schedule must be faced, either on the drawings or in the specifications. It

is not sufficient to assume that a job is a hollow metal job or a wood job. Too much confusion is certain to ensue in attempting to arrive at a proper interpretation of the drawings. The architect knows, or is assumed to know, what his requirements are and he should be willing and eager to take the builder into his full confidence.



Brevity has been called the soul of wit. It is the same for specifications. "Mere words do not a specification make." A bulky volume frequently defeats its own purpose by concealing the essence of the architect's intent beneath an avalanche of words. Clarity must, however, never be sacrificed for brevity. The aim of brevity is the omission of unnecessary words and phrases.

The specifying of concrete will illustrate the possibilities that exist in this connection. The very excellent standards of the American Society for Testing Materials are at the service of every architect. A mere reference to the serial number of the desired specification makes this generally accepted standard as much a part of the specifications as if they had been laboriously included word for word. There are many other standards equally valuable and equally accessible to the architect.

Concrete, again, may be either specified as above, or as 2000-pound concrete at 28 days, or by its water-cement ratio. Any of the three methods suggested convey in a concise and correct form the requirements of the architect.

The question of form, the last of our three general headings, is in certain of its aspects a contributory factor to both clarity and brevity and as such has been briefly discussed in the preceding paragraphs. There are, however, certain additional basic considerations that warrant the architect's attention in the preparation of a specification. Time has evolved certain well-defined trade customs in the building crafts. The trade unions have likewise set up jurisdictional limitations, zealously guarded, based in part upon these customs.

It would be well for the architect to take cognizance of this fact in the arrangement and subdivision of his

subject-matter. Each subdivision of the specifications should contain only items properly belonging to that particular operation—no more, no less!

Tin-clad doors belong under the heading of Sheet Metal and not in the Painting Specification. The contractor may be forgiven for overlooking such doors, but he has to furnish them nevertheless and at no additional cost.

Again, the laying of interior stone floors comes under the jurisdiction of the marble setter and should be so specified. The question of trade jurisdiction is an almost endless one, and unless the architect is familiar with actual building conditions his specifications can never prove as helpful to the builder as they might.

The specification does two things: It lists what is to be included and what is not, and gives a description of the quality of material and workmanship expected. A proper specification separates the listings from the description and thus simplifies the task of the builder and his associates.

The matter of cross reference is of great interest and concern to the builder. The owner is entitled to receive a structure complete in all respects. The estimate of the builder is predicated upon covering the cost of all parts of the structure. In the case of the sub-trades their estimates are prepared from their particular sections of the specifications. Should the work of a number of trades be necessary in arriving at a complete installation, this fact should be noted in the specifications, otherwise certain integral operations may be inadvertently omitted from the estimate which the builder is in the last analysis responsible for and which he will be expected to furnish without additional compensation.

This is particularly true of the mechanical trades. The plumber and steamfitter are required to furnish their necessary motors. The electrician in turn must wire them up. This division of responsibility should be made plain in the section of the specifications covering each of the trades involved.

There is nothing mysterious about a specification. It is merely a statement of fact. Its value as an essential element of the contract documents is based entirely on whether the facts are presented to the builder and in what manner.



ARCHITECTURE'S PORTFOLIO OF OUTSIDE STAIRWAYS

THE SIXTY-FIFTH IN A SERIES OF COLLECTIONS
OF PHOTOGRAPHS ILLUSTRATING VARIOUS MINOR
ARCHITECTURAL DETAILS

*Forthcoming Portfolios will be devoted to the following subjects:
Leaded Glass Medallions (April), Exterior Doors (May), Metal
Fences (June), Hanging Signs (July), Wood Ceilings (August), and
Marquises (September). Photographs showing interesting examples
under any of these headings will be welcomed by the Editor, though
it should be noted that these respective issues are made up about six
weeks in advance of publication date.*

Subjects of Previous Portfolios

❖ ❖ ❖
1926-27
DORMER WINDOWS
SHUTTERS AND BLINDS
ENGLISH PANELLING
GEORGIAN STAIRWAYS
STONE MASONRY TEXTURES
ENGLISH CHIMNEYS
FANLIGHTS AND OVERDOORS
TEXTURES OF BRICKWORK
IRON RAILINGS
DOOR HARDWARE
PALLADIAN MOTIVES
GABLE ENDS
COLONIAL TOP-RAILINGS
CIRCULAR AND OVAL WINDOWS

1928
BUILT-IN BOOKCASES
CHIMNEY TOPS
DOOR HOODS
BAY WINDOWS
CUPOLAS
GARDEN GATES
STAIR ENDS
BALCONIES
GARDEN WALLS
ARCADES
PLASTER CEILINGS
CORNICES OF WOOD

1929
DOORWAY LIGHTING
ENGLISH FIREPLACES
GATE-POST TOPS
GARDEN STEPS
RAIN LEADER HEADS
GARDEN POOLS
QUOINS
INTERIOR PAVING
BELT COURSES
KEYSTONES
AIDS TO FENESTRATION
BALUSTRADES

1930
SPANDRELS
CHANCEL FURNITURE
BUSINESS BUILDING ENTRANCES
GARDEN SHELTERS
ELEVATOR DOORS
ENTRANCE PORCHES
PATIOS
TREILLAGE
FLAGPOLE HOLDERS
CASEMENT WINDOWS
FENCES OF WOOD
GOTHIC DOORWAYS

❖ ❖ ❖
1931-1932
BANKING-ROOM CHECK DESKS
SECOND-STORY PORCHES
TOWER CLOCKS
ALTARS
GARAGE DOORS
MAIL-CHUTE BOXES
WEATHER-VANES
BANK ENTRANCES
URNS
WINDOW GRILLES
CHINA CUPBOARDS
PARAPETS
RADIATOR ENCLOSURES
INTERIOR CLOCKS

*Robert R. McGoodwin**Roland E. Coate**Roy Seldon Price**Gordon B. Kaufmann*



John Byers



Roland E. Coate

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Reginald D. Johnson



*Pliny Rogers**Frank J. Forster**Huszagh & Hill**Edwin R. Closs*



Bertram G. Goodhue Associates



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Pennington & Lewis

Jones & Ward



*Nathan Coleman**Prentice Sanger**Birge M. Clark**Reginald D. Johnson*



Paul P. Cret and Zantzinger, Borie & Medary



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*Morgan, Walls & Clements**Mellor & Meigs**Beverly W. Spillman**Stanton, Reid & Hibbard*



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Semur, France



Semur, France

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Gordon B. Kaufmann



Gordon B. Kaufmann

Roland E. Coate

Jonathan Ring





Walter Bradnee Kirby



Leland Hubbell Lyon

Prentice Sanger



Roy Seldon Price





Acquired by the
South Kensington
Museum, London,
in the summer of
1931.

One of Fifty
Prints of the Year,
1932.

SCENES
THAT PASS
IN THE
NIGHT

*From the
drypoint
by
Gerald K.
Geerlings*

By courtesy of Kennedy & Co.